

ZIOLKOWSKA, Blanka

X-ray studies of diphenylmercury. Roczn chemii 36 no.9:1341-1347  
'62.

1. Department of Crystallography and Mineralogy, Institute of  
Technology, Warsaw.

POLAND

PYTASZ, Marian, CHELSTOWSKA, Grazyna, and ZIOLKOWSKA, Boze-  
na; Department of Physiology (Zaklad Fizjologii), AM [Aka-  
demia Medyczna, Medical Academy] in Wroclaw (Director: Prof.  
Dr. A. KLISIECKI)

"The Flow of Blood in the Vessels and in the Heart Muscle."  
Warsaw, Polski Tygodnik Lekarski, Vol 18, No 14, 1 Apr 63,  
pp 497-501.

Abstract: [Authors' English summary modified] Experiments  
on animals to determine if there are any forces, apart from  
the heart muscle, which may cause the blood to flow, or if  
they are of significance to the organism were negative.  
Blood movement following heart-muscle arrest may continue  
1--6 minutes due to blood translocation in the vessels,  
gravity, or muscle movement, but these are in addition ra-  
ther than a substitution for heart muscle action, and chan-  
ges of blood kinetic into potential energy, if any, are  
too small to have any effect. There are ten (10) refer-  
ences, of which eight (8) are Polish and two (2) German.

1/1

JUZWA, Witold; WASIKOWA, Renata; ZALEWSKA-JUZWA, Alicja; ZIOŁKOWSKA, Bożena;  
PARADOWSKI, Andrzej

Effect of bean diet on the ammonia, urea and electrolyte level  
of the blood and urine in healthy children. *Pediat. Pol.* 40 no.7:  
691-699 J1 '65.

1. Z Zakładu Fizjologii AM we Wrocławiu (Kierownik: prof. dr.  
A. Klisielecki) i z I Kliniki Pediatrii AM we Wrocławiu  
(Kierownik: prof. dr. med. T. Nowakowski).

KLISIECKI, Andrzej; PYTASZ, Marian; ZIOLKOWSKA, Bozena; CHELSTOWSKA, Grazyna;  
BOCHENEK, Wieslaw

Effect of diets on the reactivity of the blood and urine and on  
their urea and electrolyte content. Pol. tyg. lek. 19 no.17:623-  
627 20 Ap '64.

1. Z Zakladu Fizjologii Akademii Medycznej w Wroclawiu (kierownik:  
prof. dr. A. Klisiecki).

PYTASZ, Marian; CHELSTOWSKA, Grazyna; ZIOLKOWSKA, Bozena

Excretion of electrolytes and nitrogen substances in the urine of rabbits following epinephrine, norepinephrine and acetylcholine administration. *Acta physiol. Pol.* 16 no.1:35-48 Jan-F'65.

1. Zaklad Fizjologii Akademii Medycznej we Wroclawiu (Kierownik: prof. dr. A. Klisiewicz).

44.55  
ACC NR: AP6002229  
EWT(1)/T/EWP(1)/EWP(1)/EWA(1)-2  
LIP(c)  
SOURCE CODE: cz/0043/65/000/003/0177/0185

AUTHOR: Jezowska-Trzebiatowska, T. Ziolkowski, J.

ORG: Department of Inorganic Chemistry, University of Wrocław, Poland

TITLE: Electronic structure and chemical bonding in cyanonitrosyl complexes of transition metals [Paper presented at the Symposium on the Structure and Properties of Coordinated Compounds held in Bratislava from 2 to 4 September 1964]

SOURCE: Chemicke Zvesti, no. 3, 1965, 177-185

TOPIC TAGS: 21.74 5 5  
electron structure, chemical bonding, intermolecular complex, transition metal oxide, ion, exchange reaction, radioisotopes, IR spectroscopy, metal oxidation, chromium, manganese, iron

ABSTRACT: The electronic structure of central ions in complexes of the  $[M(CN)_5NO]^{n-}$  type and the character of metal ligand bond were interpreted using the radioisotopic exchange method and by the IR spectroscopic investigations. Investigations of kinetics of the isotopic exchange reaction in the system:  $[M(CN)_5NO]^{n-} + [M(CN)_6]^{n-} \rightleftharpoons [M(CN)_5NO]^{n-} + [M(CN)_6]^{n-}$  have shown that the effective valency state of central ions in the complexes investigated is 3+. The stabilization of metal oxidation state in the pentacyanonitrosyl complexes of cobalt(II), manganese and iron as compared with hexacyanide complexes is due to the increase of stability of M-NO bond, because of the additional  $\pi$ -bond (dative or covalent type). The appearance of  $\pi$ -bond M-NO, along-

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L 9512-66

ACC NR: AP6002229

side the  $\sigma$ -bond was confirmed in the complexes of chromium, manganese and iron by investigations of kinetics and mechanism of exchange reaction as well as the very comprehensive examination of infrared spectra. The investigations of the IR-spectra demonstrated the close relationship between values and position of frequencies characteristic for M—O and M—N fundamental vibrations and  $\pi$ - or  $\sigma$ -bonds participation in information of M—N and N—O bonding. The above investigations permitted the construction of a general model of coordination in the NO group of the pentacyanometrosyl complexes of the first transition metal series. Orig. art. has: 11 tables, 3 formulas. [JPRS]

SUB CODE: 07 / SUBM DATE: none / ORIG REF: 009 / OTH REF: 009

Card 2/2

ZIOŁKOWSKA, MARIA

MATUSEWICZ, Mirosław; WOJAKOWSKI, Ignacy; ZIOŁKOWSKA, Maria

Scoliosis in children in urban & rural areas. Chir. narz. ruchu 22  
no.2:121-123 1957.

1. Z Oddziału Ortopedyczno-Urazowego Miejskiego Szpitala im.  
Wł. Bieganskiego w Częstochowie Ordynator: dr Z. Teleszyński. Częstochowa,  
ul. Mickiewicza 12, Szpital im. Wł. Bieganskiego.

(SCOLIOSIS, in Inf. & child

incidence in child. in urban & rural areas, comparison  
(Pol))

(RURAL CONDITIONS,

incidence of scoliosis in child., comparison with child.  
from urban areas (Pol))



BRETSZNAJDER, S.; ZIOLKOWSKI, D.

Effective thermal conductivity coefficient of granular catalytic beds.  
I. Dependence of specific thermal conductivity of granular beds on  
manner of packing. II. Dependence of the specific heat conductivity  
of granular bed on the temperature gradient along the bed. Bul Ac  
Pol chim 7 no.8: 579-584 '59. (EEAI 10:4)

1. Department of Fundamental Physico-Chemical Problems in Technology,  
Institute of Physical Chemistry, Polish Academy of Sciences and  
Department of Technological Designing, Institute of Technology,  
Warsaw. Communicated by S.Bretsznajder.  
(Heat) (Catalysis) (Granular substances)

BRETSZNAJDER, S.; ZIOLKOWSKI, D.; SURDACKI, T.

Effective thermal conductivity of granular solids in rotary units. Bul chim PAN 11 no.12:711-713 '63.

1. Department of Fundamental Physico-chemical Problems in Technology, Institute of Physical Chemistry, Polish Academy of Sciences, Warsaw and Department of Technological Designing, Technical University, Warsaw.

ZIOLKOWSKI, D., dr

Penetration of heat in a granular contact layer; effective thermal conductivity. Wlad chem 17 no.8:488-491 Ag '63.

BRETSZNAJDER, Stanislaw; ZIOLKOWSKI, Dariusz

On the specific thermal conductivity of some carbon linings.  
Przem chem 40 no.12:705-708 D '61.

1. Katedra Projektowania Technologicznego, Politechnika, Warszawa i  
Instytut Chemii Ogolnej, Warszawa.

ZIOLKOWSKI, Eugeniusz, mgr.

Remarks on the utilization of patents in the field of fuel  
and power engineering in industry;  
patent claims deserving to be checked for use in industry.  
Gosp paliw ll no.9:352-353 S '63.

JEZOWSKA-TRZEBIATOWSKA, B.; ZIOLKOWSKI, J.; WOJCIECHOWSKI, W.

Absorption spectra of nitrosylcyanide complexes of transition metals. *Bul chim PAN* 11 no.10:567-573 '63.

The application of the M.O. method to investigations of nitrosylcyanide complexes. *Ibid.*:575-578

1. Department of Inorganic Chemistry, University, Wrocław.  
Presented by W. Trzebiatowski.

ZIOLKOWSKI, J.

Telecommunication development trends in the Five-Year Plan dealing with communication.

p. 322  
Vol. 28, no. 10, Oct. 1955  
PRZEGLAD TELEKOMUNIKACYJNY  
Warszawa

SO: Monthly List of East European Accessions (EEAL), LC, vol. 5, no. 2  
Feb. 1956

ZIOLEWSKI, J.

"Rare Elements in the Coal of Upper Silesia." p. 180, Stalinograd, Vol. 10, no. 5, May 1954.

SO: East European Accessions List, Vol. 3, No. 9, September 1954. Lib. of Congress

The presence of the following rare elements has been found by spectrographic analysis in Upper Silesian coal: lead, copper, chromium, manganese, zinc, tin, barium, bismuth, cobalt, zirconium, nickel, cadmium, vanadium, tungsten, gallium, indium, hafnium, scandium, columbian and germanium. It has also been found that the proportion of the above-mentioned elements in the coal varies at different points in the seam.



ZIOLKOWSKI, J.

Coking properties of some coal macerals. p. 153

KAKS, SMOLA, GAZ. Katowice, Poland Vol. 4, no. 4, July/August. 1959.

Monthly List of East European Accession.. (EEAI) LC, Vol. 9, no. 1,  
Jan. 1960

Uncl.

JEZOWSKA-TRZEBIATOWSKA, B.; ZIOLKOWSKI, J.

Infrared spectra of pentacyanonitrosyl complexes of transition metals. Bul chim PAN 12 no.8:503-506 '64.

1. Department of Inorganic Chemistry of Wroclaw University.  
Submitted May 25, 1964.

ZIOLKOWSKI, J.

COUNTRY : Poland  
 CATEGORY : Chemical Technology. Chemical Products and Their Applications--Chemical processing of solid fossil  
 ABST. JOUR. : RZKhim., No. 5 1960, No. 19273  
 AUTHOR : Ziolkowski, J.  
 INST. : Central Mining Institute (Poland)  
 TITLE : The Physical and Chemical Properties of the Petrographic Components of Coal. Part I.  
 ORIG. PUB. : Prace Glown Inst Gorn., 3, No 229 (1959)  
 ABSTRACT : The petrographic components (PC) of a series of coals belonging to Type 31 according to the Polish classification have been separated. Data are presented indicating that the PC differ in degree of coalification, volatile matter content, degree of ring condensation and aromatization, and in content of aliphatic, alicyclic, and aromatic C. Individual PC also exhibit different tendencies to spontaneous ignition. The author points out that the PC, being homogeneous substances, should be

1/2 \*fuels.

508

COUNTRY:	: Poland	H-22
CATEGORY:	:	
REF. NO.	: RZPb52, No. 5 1960, No.	19273
AUTHOR:	:	
INSTR.	:	
TIME:	:	
ORIG. SUB.	:	
ABSTRACT	: considered as the principal characteristic components of coal seams. The bibliography lists 25 titles.	
	Ya. Satunovskiy	

CARD: 2/2

L 29455-66 T IJP(c) AT  
ACC NR: AP5028968

SOURCE CODE: PO/0053/65/000/008/0381/0384

AUTHOR: Ziolkowski, J.

ORG: Semiconductor Catalysis Workshop, Physicochemistry of Surface Phenomena Department, Physical Chemistry Institute PAN, Cracow (Pracownia Katalizy Polprzewodnikowej, Zaklad Fizykochemii Zjawisk Powierzchniowych, Instytut Chemii Fizycznej PAN)

TITLE: New method of determining the figure of merit for thermoelectric materials

SOURCE: Przegląd elektroniki, no. 8, 1965, 381-384

TOPIC TAGS: thermoelectric power, thermal conduction, Q factor, electric resistance, semiconducting material, measurement, thermoelectric property

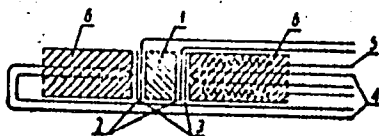
ABSTRACT: The figure of merit  $z$  is determined from the thermoelectric power  $\alpha$ , the thermal conductivity  $k$ , and resistivity  $\rho$  in the relation  $z = \alpha^2 / k \rho$ . The measurements are carried out on a sample set as in Fig. 1. The control measurements on nickel oxide as compared with the direct measurements show that there is a small error in this method of measurement and that it can be reduced by employing suitable safeguards against heat dissipation. Orig. art. has 1 fig., 1 table, and 7 formulas.

UDC: 621.36

Card 1/2

L 29455-66

ACC NR: AP5028968



1. sample, 2. electrodes, 3. insulator, 4. termocouples, 5. heater,  
6. metal slugs

SUB CODE: 20,14/ SUBM DATE: 25Jan65/ OTH REF: 004

Card 2/2 *h*

JEZOWSKI-TRZEBIATOWSKA, B.; ZIOLKOWSKI, J.

Electronic structure and chemical bonding in cyanonitrosyl  
complexes of transition metals. Chem zvesti 19 no.3:177-  
185 '65.

1. Department of Chemistry, University of Wroclaw, Poland.

ZIOLKOWSKI, K.

Systematic errors in determining the coordinates of the mass center of the head of a comet and their influence on the determined elements of its orbit. Postepy astronom 12 no.1:47-50 '64.



ZIOLKOWSKI, K.

Gowell evaluation method of the errors of integration of the equations of celestial mechanics. Postepy astronomii no. 2:103-111. '64.

ZIOLKOWSKI, K.

S/035/62/000/012/005/064  
A001/A101

AUTHOR: None given

TITLE: "Urania" (Poland), 1962, v. 33, no. 7

PERIODICAL: Referativnyy zhurnal, Astronomiya i Geodeziya, no. 12, 1962, 6,  
abstract 12A34 ("Urania". (Polska), 1962, v. 33, no. 7, 194 - 220,  
Polish)

TEXT: The following articles have been published: "Electrical Universe"  
by K. Ziolkowski; "Space Medicine" by B. Falkiewicz; "The name of Copernicus  
in botanics" by B. Goralka; "Eternal satellite" by J. Gadowski; "Voicech from  
Brudzew", "Copernicus portrait on the clock of the Strassburg cathedral" and  
"Kant on Copernicus" by S. Brzostkiewicz; "Discovery of Transpluto" by S. Lu-  
bertowicz; "Correction to the article on Comets" by F. Kępinski; "On the problem  
of restoration of Frombork" by S. Przyłęcki; "470 anniversary of the first ter-  
restrial globe" by J. Pagaczewski, etc. ✓

. N. Ch.

[Abstracter's note: Complete translation]

Card 1/1

ZIOLKOWSKI, Krzysztof (Warszawa)

Sirius and its companion. Urania 33 no.4:101-106 Ap '62.

ZIOLKOWSKI, Marian (Poznan)

Industrialization of building as limiting means of season  
production. Przegl budowl i bud mieszk 36 no. 4:180-183  
Ap '64.

ROBACZYNSKI, Jerzy; ZIOLKOWSKI, Mieczyslaw

Supernumerary oviducts and supernumerary abdominal ostia of  
the oviducts in woman. Folia morphol 22 no. 2:161-167 '63

1. Zaklad Anatomii Opisowej, Akademia Medyczna, Wroclaw.  
Kierownik: prof. dr nauk med. T. Marciniak, I I Klinika  
Pozoznictwa i Chorob Kobietych, Akademia Medyczna, Wroclaw.  
Kierownik: prof. dr. K. Nowosad.

ZIOLKOWSKI, Mieczyslaw; ROBACZYNSKI, Jerzy

A case of anomalous congenital abdominal orifice of the oviduct,  
Gin.polska 32 no.6:749-754 '61.

1, Z Zakladu Anatomii Opisowej AM we Wroclawiu Kierownik: prof.  
dr nauk med. T.Marciniak Z I Kliniki Poloznictwa i Chorob Kobietych  
AM we Wroclawiu Kierownik: prof. dr K.Nowak.  
(OVIDUCTS abnorm)

ZIOLKOWSKI, Ryszard, mgr. inż.; CWYNAR, Ludwik, mgr. inż.

Testing of the water circulation in boilers of three-level  
evaporation with external separation cyclones. Energetyka  
Pol 16 no.6:Suppl.:Biul Instytut Energet 4 no.5/6:17-23  
Je '62.

ZIOLKOWSKI, R.; CHYNAR, L.

Investigation of the water circulation of EKM-50 boilers. Pt. 2. p. 124

ENERGETYKA (Ministerstwo Gornictwa i Energetyki oraz Stowarzyszenie Elektrykow  
Polskich) Bytom, Poland. Vol. 13, no. 5, May 1959

Monthly List of East European Accessions (MEAI) LC, Vol. 8, no. 9, September 1959  
Uncl.



ZIOLKOWSKI, R.; CWYNAR, L.

Investigation of the water circulation of EKM-50 boilers. Pt. 1 (to be cont.) p. 95

ENERGETYKA (Ministerstwo Gornictwa i Energetyki oraz Stowarzyszenie Elektrykow  
Polskich) Bytom, Poland. Vol. 13, no. 4, Apr 1959

Monthly List of East European Accessions (EEAI) LC, Vol. 8, no. 9, September 1959.  
Uncl.

WISNIEWSKI, Wlodzimierz, dr inz.; ZIOLKOWSKI, Ryszard, mgr inz.

Feed water circulation in the OP-130/110 steam boiler while overloaded and under dynamic conditions. Energetyka Pol 17 no.12:Supplement: Biul inst energetyki 5 no.11/12:42-44 D'63.

1. Zaklad Cieplny, Instytut Energetyki, Warszawa.

GWYNAR, Ludwik, mgr inż.; ZIOLKOWSKI, Rydzard, mgr inż.

Studies on the radiant superheater while in operator. Energetyka  
Pol:Suppl.:Biul inst-energ 5 no.3/4:9-12 Ap '63.

1. Zakład Ciepły, Instytut Energetyki, Warszawa.

ZIOLKOWSKI, Ryszard, mgr. inz.

The quick putting into operation of boilers fired with pulverized  
coal. Energetyka Pol 14 no.2:29-32 '60. (RMAI 9:6)  
(Poland-- Boilers)

ZIGLONSKI, R.

Remarks on the use of boilers fired with pulverized coal. p. 177.  
(ENERGETIKA. Vol. 11, no. 4, July/Aug. 1959. Warszawa, Poland)

SO: Monthly List of East European Accessions (MEAL) 10. Vol. 6, no. 12, Dec. 1957.  
Uncl.

ZIOLKOWSKI, Ryszard, mgr inż.

Research station for combustion testing of brown coal dust.  
Energetyka Pol 18 no.4: Supplement: biul inst energetyki 6  
no.3/4: 11-13 Ap'64

1. Heat Engineering Laboratory, Power Institute, Warsaw.

ZIOLKOWSKI, Ryszard, mgr inż.

Thermal asymmetry of large steam boilers for brown coal.  
Energetyka Pol 18 no.12:Suppl:Biul inst energetyki 6 no.  
11/12:49-54 D '64.

1. Thermal Department of the Institute of Power Engineering,  
Warsaw.

ZIOLKOWSKI, Ryszard, mgr inz.; BUDZINSKI, Zygmunt, mgr inz.

Investigation on rational starting of a 25 MW turbine-boiler system.  
Energetyka 14 no.12 Biuletyn:37-41 D '60. (EEAI 10:5)

1. Zaklad Cieplny  
(Steam boilers) (Turbines)



ZIOLKOWSKI, Tadeusz

Comparison of techniques of general anesthesia used in gynecological surgery. Ginek. Pol. 35 no.4:581-590 J1-Ag '64

1. Z II Kliniki Położnictwa i Chorób Kobietych Akademii Medycznej w Gdańsku (Kierownik: prof. dr. med. W. Gromadzki).

ZIOLKOWSKI, Tadeusz

Use of dulcolax for the stimulation of intestinal peristalsis  
in early postoperative stages. Ginek. Pol. 36 no. 1257-61  
Ja '65

1. Z II Kliniki Położnictwa i Chorob Kobietych Akademii  
Medycznej w Gdansk (Kierownik: prof. dr. med. W. Gromadzki).

ZIOLKOWSKI, Tadeusz

Value of general endotracheal anaesthesia with the use of relaxant agents in gynecological surgical procedures. Ginek. Pol. 36 no.6: 655-661 Je '65.

1. Z II Kliniki Położnictwa i Chorob Kobięcych Akademii Medycznej w Gdansk (Kierownik: prof. dr. med. W. Gromadzki).

ZIOLKOWSKI, T.

A few remarks on the organization and work of the Industrial Safety and Hygiene Service. p. 29.

LAS POLSKI. (Ministerstwo Lesnictwa oraz Stowarzyszenie Naukowo-Techniczne Inzynierow i Technikow Lesnictwa i Drzewnictwa) Warszawa, Poland. Vol. 29, no. 2; Feb. 1955

Monthly list of East European Accessions (EEAI) LC, Vol. 9, no. 2, Feb. 1960

Uncl.

ADAMSKI, Czesław, doc. dr inż.; ZIOLKOWSKI, Stanisław, inż.; ZEP  
Ireneusz, mgr inż.

Influence of the melting technology on the mechanical  
properties and structure of special Cu<sub>5</sub>Mn<sub>4</sub>Fe<sub>11</sub>Sn<sub>11</sub>Zn bronze.  
Przegl odlew 13 no. 12:328-332 D '63.

ZIOLKOWSKI, Stanislaw, inz.

Reed and other water plants as biological protection of navigation  
channel slopes. Gosp wodna 23 no 4:144-146 Ap '63.

1. Zaklad Hydrotechniki, Instytut Gospodarki Wodnej, Warszawa.

ZIOLKOWSKI, Stanislaw, ins., ZEP, Ireneusz, mgr ins.

Attempts of using shaped foundry coke for the melting of copper alloys. Przegl odlew 12 no.11:358-359 N '62.

ZIOLKOWSKI, Zdzislaw; BELINA, Danuta

Heights of the transfer unit for the aqueous solution of sodium sulfate and sulfite - phenol - benzene system. Chemia stosow 6 no.2:167-190 '62.

1. Zaklad Inzynierii Chemicznej i Konstrukcji Aparatury, Polska Akademia Nauk, i Katedra Inzynierii Chemicznej, Politechnika, Wroclaw.



ZIOLKOWSKI, Zdzislaw; KOCH, Roman

Certain problems of chemisorption kinetics in the emulsification range as seen from the example of  $\text{CO}_2$  absorption by aqueous NaOH solutions. Chemia stosow 7 no.4:519-543 '63.

1. Zaklad Inzynierii Chemicznej i Konstrukcji Aparatury, Polska Akademia Nauk i Katedra Inzynierii Chemicznej, Politechnika, Wroclaw.

ZIOLKOWSKI, Z.

"Properties of gases and liquids" by S. Bretsznajder. Reviewed  
by Z. Ziolkowski. Wlad chem 17 no. 4: 269-270 Ap '63.

ZIOLKOWSKI Z.

Wojewódzki Szpital. Dzieci, Bydgoszcz. Znaczenie pisma w płaswicy. \*The importance of penmanship in chorea PEDIAT. POL. 1953, 28/12 (1203-1208) Illus. 6

A study of handwriting of 27 children showed that an early diagnosis of chorea may be made and the progress of the disease as well as improvement due to treatment may be followed by observing the changes in handwriting. Examples of handwritings of ill and cured children are reproduced.

Rappaport - Tel Aviv (IX, 7,8)

SO: Excerpta Medica; Section VIII Vol. 7 No. 11

ZIOLKOWSKI, Zbigniew (Warszawa)

Notes on the Five Year Plan for technical progress in the food industry. Przem spoz 15 no.8:1-10 '61.

1. Redaktor dzialowy miesiecznika "Przemysl Spozywczy"

ZIOLKOWSKI, Zdzisław; KUBICA, Jan

The unit size of mass transferring in a pulsating extraction column filled with Raschig rings. Chemia stocow 5 no.3:363-370 '61.

1. Zakład Inżynierii Chemicznej i Konstrukcji Aparatury,  
Polska Akademia Nauk, Wrocław i Katedra Inżynierii Chemicznej,  
Politechnika, Wrocław.

ZIOLKOWSKI, Z.

COUNTRY	:	Poland	11-23
CATEGORY	:		
ABS. JOUR.	:	RZKhim., No. 5 1960, No.	19460
AUTHOR	:	Ziolkowski, Z. and Namowicz, J.	
INST.	:	Not given	
TITLE	:	The Dephenylation of the Gasoline Obtained from Semicoke Resins in an Extraction Column with the Use of Slugging	
ORIG. PUB.	:	Chem Stosow, 2, No 4, 475-489 (1958)	
ABSTRACT	:	The dephenylation of the heavy gasoline fraction obtained from semicoke resins, containing 46.5% of acid compounds, has been investigated. The acid compounds are removed by washing with 13% NaOH in columns packed with Raschig rings and by the use of pulsation (pumping) of the liquid with a specially designed pump. The authors indicate that the investigated process bears a mixed physicochemical character. In the first stage the phenols react chemically with the NaOH and in	
CARD:	1/2	327	

COUNTRY:	: Poland	H-23
CATEGORY	:	
ABS. JOUR.	: RZKHim., No. 5 1960, No.	19460
AUTHOR	:	
INST.	:	
TITLE	:	
ORIG. PUB.	:	
ABSTRACT	: the second stage, they are washed out physically by the solution of phenolates which is formed. The application of pulsation permits a marked reduction in NaOH consumption, prevents the formation of precipitates, and permits a marked reduction in column height.	
	Ya. Satunovskiy	
CARD:	2/2	

ZIOLKOWSKI, Zdzislaw; BELINA-FREUNDLICH, Danuta

Announcement. Chemia stosow 6 no. 4:615-616 '62.

1. Katedra Inzynierii Chemicznej, Politechnika, Wroclaw.



ZIOLKOWSKI, Zdzislaw; KUBICA, Jan

The height of transfer unit in a pulsating extraction column filled with Raschig rings. Chemia stosow 5 no.3:363-370 '61.

1. Zaklad Inzynierii Chemicznej i Konstrukcji Aparatury, Polska Akademia Nauk i Katedra Inzynierii Chemicznej, Politechnika Wroclawska.

ZIOŁOKOWSKI, Zdzisław; KOCH, Roman

Operation characteristics of the centrifugal mechanical absorber.  
Chemia stosow 3 no.1:37-56 '59.

1. Katedra Inzynierii Chemicznej, Politechnika, Wroclaw.

ZIOLKOWSKI, Zdzislaw; KUBICA, Jan

Influence of the amplitude and frequency of the pulsation in a sieve column upon the size of the transfer unit. Chemia stosow 3 no.1:57-70 '59.

1. Katedra Inzynierii Chemicznej, Politechnika, Wroclaw.

ZIOLKOWSKI, Zdzislaw; KUBICA, Jan

Influence of the flow rate and pulsation upon the over-all transfer unit size for an extraction sieve-plate tower column. Chemia stosow 3 no.4:461-474 '59.

1. Zaklad Inzynierii Chemicznej i Konstrukcji Aparatury, Polska Akademia Nauk, Wroclaw i Katedra Inzynierii Chemicznej, Politechnika, Wroclaw.

ZIOLKOWSKI, Zdzislaw; NAUMOWICZ, Jerzy; KAKOMASKI, Krzysztof

Extraction of phenols in a packed tower with low concentrations.  
Chemia stosow 3 no.4:475-485 '59.

1. Katedra Inzynierii Chemicznej, Politechnika, Wroclaw.

ZIOLKOWSKI, Z.

Dephenolization of low-temperature carbonized gasoline  
in extraction columns with pulsation. Zdzisław Ziolkowski  
and Jerzy Naumowicz. Chemia Środowiska 1: 475-480  
(1958).--Low-temp. carbonized gasoline was dephenolized  
by means of a NaOH soln. This process has a phys.-chem.  
character; and by applying a countercurrent technique, the  
amt. of NaOH can be considerably reduced. Application of  
pulsation makes it possible to carry on the process in packed  
columns since pulsation prevents the deposition of solid  
impurities.  
Gregor Melnyk

3 4638

ZIOLKOWSKI, Zdzislaw; KUBICA, Jan.

Influence of pulsation and flow rate on the height of transfer unit in an extraction plate tower. Chemia stosow 3 no.4:461-474 '59.  
(HEAI 9:6)

1. Zaklad Inzynierii Chemicznej i Konstrukcji Aparatury Polskiej Akademii Nauk i Katedra Inzynierii Chemicznej Politechniki Wroclawskiej.

(Phenols)

(Butyl acetate)

(Plate towers)

(Water)

(Systems (Chemistry))

ZIOLKOWSKI, Z.; NAUMOWICZ, Jerzy [deceased]; MAKOMASKI, Krzysztof

Extraction of phenols in packed tower with low concentrations.  
Chemia stosow 3 no.4:475-486 '59. (KHA1 9:6)

1. Katedra Inzynierii Chemicznej Politechniki Warszawskiej  
(Benzene) (Phenols) (Packed towers)  
(Butyl acetate) (Resorcinol)



POLAND/Magnetism - Ferrites and Ferrimagnetism.

F

Abs Jour : Ref Zhur Fizika, No 10, 1959, 22840

Author : Kozlowski, L., Ziolkowski, Z.

Inst : -

Title : Effect of Additives of Oxides of Certain Metals on the Structure and Magnetic Properties of Barium Ferrites

Orig Pub : Prace inst. hutn., 1958, 10, No 6, 305-331

Abstract : A survey is given of the data on the influence of additives of oxides of certain metals on the magnetic properties of Ba-Sr, Pb ferrites. The effect of adding  $Al_2O_3$ ,  $Bi_2O_3$ ,  $Mn_2O_3$ ,  $Cr_2O_3$ ,  $CoO$ , and  $NiO$  on the structure and magnetic properties of  $BaO \cdot 6Fe_2O_3$  is investigated.

Card 1/1

POLAND/Physical Chemistry - Crystals.

B

Abs Jour : Ref Zhur Khimiya, No 19, 1959, 67175

Author : Kozowski, L., Ziolowski, Z.

Inst : -

Title : The Effect of the Addition of Certain Metal Oxides on the Structure and Magnetic Properties of Barium Ferrites.

Orig Pub : Praca inst. hutn., 1958, 10, No 6, 305-331

Abstract : The effect of the addition of  $Al_2O_3$ ,  $Bi_2O_3$ ,  $Mn_2O_3$ ,  $Cr_2O_3$ ,  $CoO$ , and  $NiO$  on the structures and magnetic properties of  $Ba_{0.6}Fe_2O_3$  was investigated. -- From authors' summary.

Card 1/1

- 11 -

S/137/62/000/001/168/237  
A006/A101

AUTHORS: Bojarski, Z., Ziolkowski, Z., Barszoz, E.

TITLE: A powder X-ray chamber for precision measurements of crystal lattice constants by the asymmetric method

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 1, 1962, 64, abstract 11453  
("Prace Inst. hutn." 1961, v. 13, no. 2, 85-88, Polish; Russian and English summaries)

TEXT: The authors describe changes in the design of cylindrical powder chambers of 114.6 mm in diameter, developed and manufactured at the Institute of Ferrous Metallurgy. The new model of the chamber is intended not only for performing identification analyses but also for precision measurements of crystal lattice constants by the asymmetrical or reverse method. Dismountable thermostatic screens assure a stable controlled temperature of the specimen and the film. Measurements of the crystal lattice constants have shown that radio-graphs taken at stable temperature, yield mean arithmetic values of the lattice constants, which differ only by the sixth digit. Graduation of the chamber was made in the 13.2 - 50.2°C temperature range for the purpose of establishing

Card 1/2

A powder X-ray chamber ...

S/137/62/000/001/168/237  
A006/A101

the difference between the actual and the measured temperature of the specimen. In the chamber designed, the most favorable temperature range is from 15 to 25°C, where the temperature fluctuation is about 0.1°C. In this range the accuracy of the chamber is up to the fifth digit.

I. Nikitina

[Abstracter's note: Complete translation]

Card 2/2

ZIOLKOWSKI, Zbigniew, mgr.

Planning of new techniques in the U.S.S.R. Przegl. techn no.33:  
3-4 17 Ag '60.

1. Komitet do Spraw Techniki, Warszawa.

ZIOLKOWSKI, Zenon; ORSZULAK, Jadwiga; WOJTANOWSKA, Halina

Aqueous extract of *Symphytum officinale* in the treatment of some skin diseases in infants. *Pediat. polska* 32 no.12:1353-1360 Dec 57.

1. Z I Oddz. Niemowlęcego Woj. Szpitala Dziecięcego w Bydgoszczy  
Dyrektor Szpitala: B. Chrzanowski. Ordynator Oddziału: Z. Ziolkowski.

(SKIN DISEASES, in inf. & child

ther., aqueous extract of *Symphytum officinale* (Pol))

(PLANTS, extracts

*Symphytum officinale* aqueous extract in ther. of skin dis.  
in inf. (Pol))

ZIOLKOWSKI, Zenon; CHRZANOWSKI, Bernard

Usefulness of comparative leukocyte count for diagnostic verification of otitis media in infants; preliminary reports. *Pediat. polska* 34 no.2:175-179 Feb 59.

1. Z Zakladu Pediatrii Oddzialu I.D. i S.K. L. w Bydgoszczy Kierownik: Zakladu, dr med. B. Chrsanowski. Adres: dr. Z. Ziolkowski, Bydgoszcz, ul. Poniatowskiego 24.

(ITITIS MEDIA, in inf. & child.

leukocyte count, diag. value in inf. (Pol))

(LEUKOCYTE COUNT, in var. dis.

otitis media in inf., diag. value (Pol))

CHRZANOWSKI, Bernard; ZIOLKOWSKI, Zenon

Stercoraceous ileus as sequela of antibiotic therapy. *Pediat. polska* 32 no.2:167-171 Feb 57.

1. Z Zakładu Pediatrii Oddziału Instytutu Doskonalenia i Specjalizacji Kadr Lekarskich w Bydgoszczy Kierownik Zakładu: dr. med. B. Chrzanowski. Adres: Bydgoszcz, ul. Chodkiewicza 44, Woj. Szpit. Dziec. im. J. Brudzinskiego.

(INTESTINAL OBSTRUCTION, in inf. & child  
stercoraceous caused by antibiotic ther. of diarrhea  
(Pol))

(ANTIBIOTICS, inj. eff.  
intestinal obstruct., stercoraceous during diarrhea ther.  
in child (Pol))

(DIARRHEA, in inf. & child  
ther., antibiotics, causing stercoraceous intestinal  
obstruct. (Pol))



ZIOLOWSKI, Z.

Poland/Chemical Technology - Chemical Products and Their Application. Silicates.  
Glass. Ceramics. Binders, I-9

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 62241

Author: Ziolski, Z.

Institution: None

Title: Roentgenographic Methods of Investigation of Ceramic Materials

Original

Periodical: Rentgenograficzne metody badania materialow ceramicznych, Prace  
inst. Min-wa hutn., 1955, 7, No 2-4, 203-208; Polish; Russian and  
English resumes

Abstract: Recording of roentgenograms (R) of investigated materials is done  
according to the powder method of Debye-Scherrer with subsequent  
comparison of the position and intensity of the lines of the re-  
cording with those of Debye-roentgenograms of specimens of pure  
minerals. Absence of standard lines in the R of the sample under  
study does not always mean an absence of the phase because of the  
limited accuracy of the method. Thus in a mixture of clayey

Card 1/2

Poland/Chemical Technology - Chemical Products and Their Application. Silicates.  
Glass. Ceramics. Binders, I-9

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 62241

Abstract: minerals it is possible to determine andelite only with a 50% concentration thereof; halussite in the presence of kaolinite can be determined if the concentration is of 45%; kaolinite can be determined at a concentration of 5-10%. On roentgen analysis (RA) of titanium raw materials the determination is accurate, for anatase-rutile mixtures, within 3% rutile and 5% anatase. Determination of mullite content in fired ceramic body is effected in the following manner: to the material under study is added 10% NaCl (standard) and a previously prepared calibration curve (in coordinates: mullite content (in %) versus intensity ratio  $I_{\text{mullite}}:I_{\text{NaCl}}$ ) is used for comparing the relative intensity of mullite lines (121) and (220) of the R. The selected lines are convenient for the reason that in their vicinity there are no lines of other phases of ceramic materials: quartz, corundum and cristobalite. Comparison of intensities is effected by computation of darkened areas after photometric processing of R recorded from plane samples. Accuracy of mullite determination is of 14% (relative).

Card 2/2

ZIOLKOWSKI, Z.

Board of the Ministry of the Agricultural and Food Industries on the matter of cooperation with the Scientific-Technical Association of Engineers and Technicians of the Food Industry.

P. 147 (Przemsl Spoxywczy. Vol. 10, no. 4, Apr. 1956, Warszawa, Poland)

Monthly Index of East European Accessions (EFAI) L.C Vol. 7, no. 2, February 1958

ZIOLKOWSKI, Z.

Foreign substances in food; 2d International Symposium in Como.

P. 371 (PREZEMYSŁ SPOŻYWCY) (Warsaw, Poland) Vol. 11, no. 9, Sept. 1957

SO: Monthly Index of East European Accession (EEAI) LC Vol. 7, No. 5. 1958

POLAND/Chemical Technology. Chemical Products and Their  
Application. Food Industry.

II-28

Abs Jour: Ref Zhur-Khin., No 2, 1959, 6267.

Author : Gutowski, J.; Kaminski, W.; Ziolkowski, Z.

Inst :

Title : Food Industry in Yugoslavia, its Economics and Trends of  
Development.

Orig Pub: Przem. spozywczy, 1958, 12, No 6, 212-219.

Abstract: No abstract.

Card : 1/1

ZIOLKOWSKI, Z.

Technical press of the food industry as seen by readers. p.296

PRZEMYSŁ SPOŻYWCZY. (Stowarzyszenie Naukowo-Techniczne Inżynierów i Techników  
Przemysłu Spożywczego) Warszawa, Poland  
Vol13, no.8, Mar. 1955

Monthly list of East European Accessions (EEAI) LC, Vol.9, no.1, Jan. 1960

Uncl.

ZIOLKOWSKI, Z.

Foreign substances in food; 5th International Symposium in Budapest,  
May 11-15, 1959. p. 359.

PRZEMYSŁ SPOŻYCZY. (Stowarzyszenie Naukowo-Techniczne Inżynierów i Techników  
Przemysłu Spożywczego) Warszawa, Poland  
Vol.13, no.9, 1959.

Monthly list of East European Accessions (EEAI) LC, Vol.9, no.1, Jan. 1959.

Uncl.

ZIOLKOVSKIY, K. E.

"Space Investigations by Means of Propulsion Spaceships," Kaluga, Leningrad, 1914

B-76875



ZIOLKOWSKI, Zenon

Seidlmayer's cockade purpura. Pediat. polska 31 no.10:  
1151-1153 Oct 56.

1. Z Oddziału Niemowlecego Wojewodzkiego Szpitala  
Dziecięcego w Bydgoszczy. Dyrektor Szpitala: dr. med.  
B. Chrsanowski, Ordynator Oddz. Niemowlecego: dr. med.  
Z. Ziolkowski.

(PURPURA, in infant and child,  
Seidlmayer's cockade purpura (Pol))

ZIOLKOWSKI, Z.

Achievements of the Association of Engineers of the Agricultural and Food Industries during ten years of People's Poland. p. 223. (PRZEMYSŁ ROLNY I SPOŻYWCZY, Vol. 8, No. 7, July 1954, Warszawa, Poland)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 3, No. 12, Dec. 1954, Uncl.

1ST AND 2ND ORDERS		PROCESSES AND PROPERTIES INDEX		3RD AND 4TH ORDERS	
<p>Transformation of natural gas into hydrogen mixtures by means of water vapor. T. PATRYN AND Z. ZDZIKIOWSKI. <i>Przemysl Naftowy</i> 7, 381-11, 224 (1962). The transformation was performed in a tube filled with a catalyst in an elec. oven, which could be heated to 1000°. As catalysts were studied: Fe<sub>2</sub>O<sub>3</sub>, NiO<sub>2</sub>, Fe (shavings), Co (reduced), Fe (reduced), Ni (reduced) and mixts of Fe, Ni and Co. The reduced metals were deposited on an asbestos cloth. Best H<sub>2</sub> yields were obtained with reduced Ni, at the temp. interval 350-550° with CH<sub>4</sub>:H<sub>2</sub>O = 1:10. Fe and Co gave entirely neg. results, being oxidized immediately on contact with H<sub>2</sub>O vapor. Their oxides act as catalysts only at high temps., i. e., above 800°. Fe favors the production of CO, on Ni shavings the reaction starts at 600°. Mixts. of Fe, Ni and Co are not better catalysts than Ni alone. Small amts. of O are without effect on the catalyst; H<sub>2</sub>O vapor in large quantities oxidizes it. Ni is in this regard the most resistant agent. The resistance toward oxidation by H<sub>2</sub>O vapor can be raised by addn. of an activator, i. e., a difficultly reducible oxide, as Al<sub>2</sub>O<sub>3</sub>, Mn<sub>2</sub>O<sub>3</sub>, Cr<sub>2</sub>O<sub>3</sub>, ZnO or K<sub>2</sub>O. The best result was obtained by a mixt. of 30% Al<sub>2</sub>O<sub>3</sub> and 70% Ni with H<sub>2</sub>O:CH<sub>4</sub> = 5:1. The oxidation of the Ni-Al<sub>2</sub>O<sub>3</sub> catalyst can be reversed by its autoregeneration effected by a lowering of H<sub>2</sub>O vapor in the gas mixt. A typical gas mixt. as obtained in the process with Ni contained: CO<sub>2</sub> 15.5, CO 5.5, H<sub>2</sub> 74.0, CH<sub>4</sub> 5.0%. The same gas, after being washed with KOH, contained: CO<sub>2</sub> 0.3, CO 0.1, H<sub>2</sub> 87.0, CH<sub>4</sub> 8.0%; after a second processing it contained: CO<sub>2</sub> 0.8, CO 3.0, H<sub>2</sub> 88.4, CH<sub>4</sub> 1.8%.</p> <p style="text-align: right;">J. WINTERLAK</p>					
<p>ASB-154 METALLURGICAL LITERATURE CLASSIFICATION</p>					
<p>10000 STATION</p>					
<p>10000 STATION</p>					

CA

22

Selective extraction of paraffin-oil base distillates with  
furfural. Z. Ziskowski. *Natta* 2, 302-5, 309-404  
(1946). Expts. in the solvent extrn. of 3 distillates (2.96  
to 5.73 "R. viscosity at 101") with 100-300% of furfural in  
a countercurrent tower packed with Raschig rings or  
fitted with an agitator are described. Bruno C. Metzner

ASB-11A METALLURGICAL LITERATURE CLASSIFICATION

3333. SELECTIVE EXTRACTION OF PARAFFIN OIL BASE DISTILLATES WITH FURFURAL. Ziolkowski, Z. (Nafte, 1946, vol. 2, 362-365, 399-404; abstr. in Chem. Abstr., 1949, vol. 43, 3602). Experiments in the solvent extraction of three distillates (2.86 to 5.73° C. viscosity at 100°) with 100-300% of furfural in a countercurrent tower packed with Raschig rings or fitted with an agitator are described.

C.A.

ZIOLLO, A.; KRONCOWSKI, L.

"First Big Polish Engine for Direct Current", P. 67, (WIADOMOSTI  
ELEKTROTECHNICZNE, Vol. 14, No. 3, March 1954, Warsaw, Poland)

SC: Monthly List of East European Accessions (EEAL), LC, Vol. 4, No. 3,  
March 1955, Uncl.

POLAND

PIETRZYK, Jan, ZIOLU, Tadeusz, and ZULINSKI, Tadeusz of the Polio Vaccine Production Division (Zaklad Produkcji Szczepionki "Polio") of the Plant for the Manufacture of Sera and Vaccines (Wytownia Surowic i Szczepionek) (Director: Docent, Dr. Wacław MIRKOWSKI) and the Department of Pathological Anatomy (Wydział Anatomii Patologicznej) of the Veterinary Division (Wydział Weterynaryjny) of the WSR [Wyższa Szkoła Rolnicza, Higher School of Agriculture] (Director: Prof. Dr. Tadeusz ZULINSKI), both in Lublin

"Cholesterol Content of Adrenal Cortex in Monkeys Following the Administration of Phenactil."

Warsaw-Lublin, Medycyna Weterynaryjna, Vol 18, No 9, Sep 62, pp 528-531.

Abstract: Authors made a study of the effect of phenactil on the organism of acclimated Macacus Rhesus monkeys, particularly on the adrenals. Increased size and distribution of birefringent crystals in the adrenals, corresponding to a rise of cholesterol was determined 12-24 hours, with a re-

ZIOLOWSKI, Z., dr inz.

Elaboration of a method for roentgenospectral quantity analysis  
of alloy compounds in steels. Biul inf inst metal zel no.2/3:  
20-22 '63.



ZIOLKOWSKI, Z.  
ZIOLKOWSKI, Z.

G. Filonenko and P. Lebedev's Drying Installations; a book review.

p. 154 (Wiadomosci Chemiczne) Vol. 11, no. 2, Feb. 1957, Wroclaw, Poland

SO: MONTHLY INDEX OF EAST EUROPEAN ACCESSIONS (EEAI) LC, VOL. 7, NO. 1, JAN. 1958



L. Kozlowski and Z. Ziolkowski

if NiO is added. At 10% NiO or CoO the I-type ferrite still exists and disappears at 40% at which compn. new compounds are formed. The sinters of NiO and CoO do not fit as hard magnets. The literature on the effect of a series of metal oxides on magnetic properties of Ba, Sr, and Pb ferrites is reviewed.

Mordern Methodology

ZIOLKOWSKI, Z.

TECHNOLOGY

PERIODICAL: CHEMIA STOSOWANA. Vol. 2, no. 4, 1958

ZIOLKOWSKI, Z. Comparison of the efficiency of packed and mechanical extraction columns. p. 457.

Monthly List of East European Accessions (EEAI) LC Vol. 8, no. 4.

April 1959, Unclass

ZIOLKOWSKI, Z.

TECHNOLOGY

PERIODICAL: CHEMIA STOSOWANA. Vol. 2, no. 4, 1958

ZIOLKOWSKI, Z. Removal of phenol from low-temperature carbonized benzene in extraction columns with pulsation. p. 475.

Monthly List of East European Accessions (EEAI) LC Vol. 8, no. 4.

April 1959, Unclass

PHASE I BOOK EXPLOITATION

POL/5033

Czapliński, Stefan, Master in Engineering, Jan Dyduszyński, Professor, Master in Engineering, Jan Sobolewski, Docent, Master in Engineering, Zbigniew Szaniawski, Master in Engineering, and Zdzisław Ziolkowski, Professor, Master in Engineering.

Najnowsze rozwiązania konstrukcyjne w budowie aparatury chemicznej 1959/1960; praca zbiorowa (Latest Design Developments in the Construction of Chemical Apparatus 1959/60; a Collective Work) Warsaw, Państwowe Wydawn. Techniczne, 1960. 127 p. Errata slip inserted. 1,690 copies printed. (Series: Nowa technika, zesz. 32)

Coordinator: Jan Dyduszyński, Professor, Master in Engineering; Scientific Ed. PWT: Irena Gajewska, Master in Science; Tech. Ed.: I. Milewska.

PURPOSE: This book is intended for chemists, engineers, and designers of chemical equipment for research and industry. It may also be used by students in higher technical schools.

Card-1/5

Latest Design (Cont.)

POL/5033

COVERAGE: The book discusses the latest (up to 1959) trends in the development of some designs for chemical equipment. The authors deal specifically with progress in the design of absorption and distillation equipment, and latest developments in the design of gas compressors and sedimentation separators used in the chemical industry. No personalities are mentioned. References accompany each section.

TABLE OF CONTENTS:

I. Progress in the Field of Absorption Equipment Design	
1. Introduction	5
2. General review of progress in absorption-tower design	5
3. New types of packing	6
a. Solid-wall packings	8
b. Grid- and mesh-type packings	8
c. Packings consisting of parallel layers	18
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Card 2/3

**"APPROVED FOR RELEASE: 07/16/2001**

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338.12

Kozłowski L., Ziłowski Z. The Effect of Adding  $Al_2O_3$ ,  $Mn_2O_3$ ,  $Cr_2O_3$ ,  $Bi_2O_3$ ,  $CaO$  and  $NiO$  on the Structure and Magnetic Properties of Barium Ferrites. 3

„Wpływ dodatków  $Al_2O_3$ ,  $Mn_2O_3$ ,  $Cr_2O_3$ ,  $Bi_2O_3$ ,  $CaO$  i  $NiO$  na strukturę oraz własności magnetyczne ferrytów barowych”. Przegląd Telekomunikacyjny. No. 1, 1959, pp. 5—10, 19 figs.

X-ray examinations and magnetic tests carried out with a view to determining the effect of adding  $Al_2O_3$ ,  $Mn_2O_3$ ,  $Cr_2O_3$ ,  $Bi_2O_3$ ,  $CaO$  and  $NiO$  on the structure and magnetic properties of barium ferrites used in the production of permanent magnets, show that adding  $Al_2O_3$ ,  $Mn_2O_3$  and  $Bi_2O_3$  to barium-aluminum, barium-manganese and barium-bismuth ferrites diminishes the speed of grain growth in sintered material, and that the sintering temperatures ensuring a low rate of growth are dependent upon the oxide being added. In order to ensure a uniform structure of barium-aluminum ferrite, sintering temperatures in excess of  $1200^\circ C$  should be used. The effect of  $Mn_2O_3$  on the growth of grain is insignificant so that sintering temperatures should be between  $1000$  and  $1100^\circ C$ . At low  $Bi_2O_3$  content, the presence of an easily fusible stage facilitates sintering of the pressing at a relatively low temperature, a process which prevents the growth of grain and the drop of coercive force. Adding more than 2—5% of  $Bi_2O_3$  results in the formation of a new stage of an indefinable structure which counteracts the growth of grain at the stage  $BaFe_{12}O_{19}$ . Adding  $Cr_2O_3$ ,  $CaO$  and  $NiO$  seriously affects the magnetic properties of barium ferrite.

ZIOLOWSKI, Z.

1954

Ziolowski Z. X-Ray Analysis of Various Polish Kaolins and Refractory Clays.

"Sienogograficzne badanie krajowych kaolinów i glin ogniotrwałych". WPrace Inst. Metalurgii No. 43, Katowice, 1952, PWT, 103 pp., 4 figs., 5 tabs.

This work refers to earlier works by Tokarski on properties of Polish argillaceous substances. The investigation of physico-chemical and technological properties of argillaceous substances calls for a mineralogical analysis by the X-ray method. The structure of argillaceous rocks and the technique of X-ray examination of their mineral composition are discussed, with particular reference to: X-ray apparatuses used for the investigations, material used for research and the chemical composition of such material, preliminary preparation of samples, standards for argillaceous minerals and limits within which they can be recognized. The results are summed up and conclusions drawn from them. The conclusions refer to the content of kaolinite in Polish raw materials, the author stating that all such Polish clays as have been tested, together with Zettlitz kaolin, contain, in addition to kaolinite, illite of the muscovite type; moreover all clays contain quartz. The composition of quartz grains in clays leads the author to offer certain remarks as to the possibilities of removing quartz by melting.

Polish Technical Abst.  
No. 1 1954  
Mining

ZIOLOWSKI, Z.

Quantitative determination of mullite in refractories by the X-ray method. Z. Ziolkowski (*Prace Instytutu Chemii*, 1954, 6, 314-321).—The method described is based on the photometric measurement of the intensity of X-ray lines recorded on film. A camera of Bragg-Brenneman type is used and the powder samples are placed in a rotating holder. Mullite, 96% pure, obtained from corundum fired at 1500° and purified by HF is used as a standard and NaCl (a 10% addition as a reference substance. The analytical curve for determination of mullite shows the % of mullite content as a function of the intensity ratio of the mullite (121) line ( $d = 2.20\text{\AA}$ ) and the NaCl (220) line ( $d = 1.99\text{\AA}$ ). The max. error of the measurements in the 20–80% mullite range is ~14%.

S. K. Lachowicz